

Message from the MICRO-47 Program Co-Chairs

Welcome to Cambridge and to MICRO-47! On behalf of the Program Committee, we are delighted to present you the technical program for MICRO-47.

The program includes 53 papers selected from 279 submissions. The program committee (PC) of 42 distinguished experts used a two-round review process. In the first round, all papers received 2 reviews from PC members and one review from an external expert. The 202 papers with at least one review with a positive score for overall merit were promoted to the second round. This year, for the first time, we notified authors of papers that did not advance to the second round shortly after these decisions were made, to provide more timely feedback. In the second round, papers received at least one review from a PC member and one review from an external expert, for a minimum total of 5 reviews per paper. Overall, 200 reviewers submitted 1,646 paper reviews.

The PC Co-Chairs personally selected all PC and external reviewers for each paper after careful examination of the papers. Papers for which only one of the Co-Chairs had a conflict-of-interest were handled by the other Co-Chair. For the 10 papers where both of us had conflicts, Milos Prvulovic made all reviewer selections and led any discussion at the PC meeting.

At the conclusion of the review process, authors were given the opportunity to respond to the review comments and scores via the rebuttal process. We made the author rebuttals available to all reviewers for a 10-day online discussion. During the online discussion, PC and external reviewers were required to enter a second “Post-Discussion” merit score and reach a preliminary recommendation to accept, reject, or discuss the paper further at the meeting. The online discussions lead to 17 accept recommendations, 92 reject recommendations, and 93 discuss recommendations. The “Post-Discussion” merit scores were used to design the PC meeting agenda. A total of 1,851 comments were entered during the online discussion.

The Program Committee met on August 29, 2014 at the Westin at Detroit Metro Airport. The PC considered the papers with “discuss” recommendations and discussed 63 of them in detail during the PC meeting. Where possible, decisions were made by discussing a paper with the full PC until a unanimous consensus was reached among the assigned reviewers. PC members with a conflict of interest on a paper were excused from the discussion. If unanimous consensus could not be reached, all non-conflicted PC members were asked to vote on the paper outcome. A small number of papers were conditionally accepted with shepherds to help address specific shortcomings in otherwise excellent pieces of research.

In an effort to improve transparency and capture key feedback from the online and PC meeting discussion, a brief “post-discussion summary” comment to the authors was entered for all papers considered in the online and PC discussion process, in addition to the reviews and scores. We hope that this information will help all authors improve their research, regardless of the outcome for their submission.

The final program includes papers that represent all aspects of our field: branch prediction and prefetching, stacked DRAM, reliability and fault tolerance, security, interconnects, compilation and code generation, energy-efficient computation, memory scheduling and optimization, methodology and modeling tools, TLB and cache optimizations, GPGPU and data parallel architectures, virtualization, and power management. In addition to the paper presentations, the program includes a

single-track session with brief presentations on the key idea in every paper (lightning talks) and a poster session. We hope that these two sessions will enable attendees to get exposure to the whole program and delve into the detailed contributions of the papers with their authors during the conference.

We are also particularly excited about the three keynote talks. The first keynote is by Mike Muller, Chief Technology Officer of ARM, Ltd. The second keynote is by Prof. Trevor Mudge, from the University of Michigan, and will address past and present predictions of the “End of Moore’s Law”. Finally, Prof. James Smith of the University of Wisconsin will discuss ongoing investigation of the brain’s computational paradigm and how it relates to computer architecture research.

Finally, the program includes a moderated debate entitled “End of the Road for von Neumann Architecture?” which will be held in the traditional English debating chamber at the storied Cambridge Union. We also invite attendees to a social program including the tradition of “Punting on the Cam”.

The MICRO-47 program is the result of the hard work of the PC members that sacrificed a significant portion of their free time this summer to provide service to our community. We are grateful for their professionalism in all aspects of their duties. We would also like to thank the members of the External Review Committee and additional external reviewers for their thorough reviews, often at a very short notice. We are particularly thankful to the PC members that diligently shepherded papers, working closely with the authors for weeks past the program selection. We would also like to recognize the PC members that volunteered to be session chairs during the conference.

Special thanks to Milos Prvulovic who handled all aspects of submissions for which the Co-chairs had conflicts. Finally, we are grateful to Anthony Gutierrez, our submission chair, for providing both authors and reviewers with a very smooth experience. He also handled preparations for the PC meeting and note-taking and time management during the meeting. He deserves a lot of credit for a well-organized and productive meeting.

We would also like to thank the members of the organizing committee, in particular Kris Flautner, the general chair, for the continuous support to all program committee activities and requests. We thank the past program and general chairs, especially Matt Farrens, Chris Nitta, and Christos Kozyrakis for guidance. We are grateful to all the members of the steering committee for their valuable advice, and in particular Rich Belgard and Onur Mutlu for fielding numerous questions.

Finally, we would like to thank all the authors that submitted papers to MICRO-47. The strong program is a reflection of a thriving research community with hardworking members with broad interests. We hope you all enjoy the technical program of MICRO-47 and the opportunity to exchange ideas and interact with colleagues in beautiful Cambridge, UK.

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